

BOTANICAL ABSTRACTS

A monthly serial furnishing abstracts and citations of publications in the international field of botany in its broadest sense.

VOLUME II

MARCH-MAY, OCTOBER-DECEMBER, 1919

PUBLISHED MONTHLY UNDER THE DIRECTION OF
THE BOARD OF CONTROL OF BOTANICAL ABSTRACTS, Inc.

EDITORIAL BOARD

BURTON E. LIVINGSTON, *Editor-in-Chief*

The Johns Hopkins University, Baltimore, Maryland

EDWARD W. BERRY, The Johns Hopkins University, Baltimore, Md., Editor for *Paleobotany and Evolutionary History*.

H. C. OWLES, The University of Chicago, Chicago, Ill., Editor for *Ecology and Plant Geography*.

B. M. DUGGAR, Missouri Botanical Garden, St. Louis, Mo., Editor for *Physiology*.

ALEXANDER W. EVANS, Yale University, New Haven, Conn., Editor for *Morphology and Taxonomy of Bryophytes*.

C. STUART GAGER, Brooklyn Botanic Garden, Brooklyn, N. Y., Editor for *Botanical Education*.

J. H. GOURLEY, New Hampshire Agricultural Experiment Station, Durham, N. H., Editor for *Horticulture*.

J. M. GREENMAN, Missouri Botanical Garden, St. Louis, Mo., Editor for *Taxonomy of Vascular Plants*.

HENRY KRAEMER, University of Michigan, Ann Arbor, Mich., Editor for *Pharmaceutical Botany and Pharmacognosy*.

E. W. OLIVE, Brooklyn Botanic Garden, Brooklyn, N. Y., Editor for *Morphology and Taxonomy of Fungi, Bacteria and Myxomycetes*.

C. V. PIPER, U. S. Bureau of Plant Industry, Washington, D. C., Editor for *Agronomy*.

DONALD REDDICK, Cornell University, Ithaca, N. Y., Editor for *Pathology*.

J. R. SCHRAMM, Cornell University, Ithaca, N. Y., Editor for *Morphology and Taxonomy of Algae*.

GEORGE H. SHULL, Princeton University, Editor for *Genetics*.

E. W. SINNOTT, Connecticut Agricultural College, Storrs, Conn., Editor for *Morphology, Anatomy and Histology of Vascular Plants*.

J. J. SKINNER, U. S. Bureau of Plant Industry, Washington, D. C., Editor for *Soil Science*.

RAPHAEL ZON, U. S. Forest Service, Washington, D. C., Editor for *Forest Botany and Forestry*.

BALTIMORE, U. S. A.
WILLIAMS & WILKINS COMPANY
1919

COPYRIGHT, 1919
WILLIAMS AND WILKINS COMPANY
BALTIMORE
U. S. A.

CONTENTS

	<i>Page No.</i>
List of Editors for volume II	i
List of Abstractors for volumes I and II	iv
List of Serial Publications cited in volumes I and II	vii
Sections:	
Botanical Education	1-5, 894-895, 1162
Ecology and Plant Geography	6-14, 219-227, 371-380, 640-650, 896-910
Forest Botany and Forestry	15-19, 228-231, 381-384, 651-655, 911-918, 1163-1192
Genetics	20-52, 232-272, 385-467, 656-720, 919-963, 1193-1259
Horticulture	53-57, 273-280, 721-733, 964-975, 1260-1271
Morphology, Anatomy and Histology:	
Thallophytes	58-64, 281-283, 468-469, 734-736
Bryophytes	65, 284, 470
Pteridophytes	285-287, 471-474, 737-739
Spermatophytes	66-81, 288-291, 475-488, 740-750
Morphology, Anatomy and Histology of Vascular Plants	976-981
Morphology and Taxonomy of Algae	1272-1278
Morphology and Taxonomy of Bryophytes	982-989, 1279-1280
Morphology and Taxonomy of Fungi, Bacteria and Myxomycetes	990-1012
Paleobotany and Evolutionary History	82-84, 489-493, 751-752, 1013-1014
Pathology	85-116, 292-303, 494-544, 753-799, 1015-1098, 1281-1312
Pharmaceutical Botany and Pharmacognosy	117-119, 800-804, 1099-1112
Physiology:	
General	120-122, 545, 1113
Protoplasm, Motility	546, 805-806, 1114
Diffusion, Permeability	123-125, 304, 547-550, 807, 1115, 1313-1316
Water Relations	126-128, 305-309, 551-552, 808
Mineral Nutrients	129-136, 310-313, 553-557, 809-817, 1116-1118
Photosynthesis	314-315, 558-561, 818, 1119
Metabolism (General)	137-166, 316, 562-581, 819-830, 1120-1124
Metabolism (Nitrogen Relations)	167-169, 317-319, 582-597, 831, 1317-1319
Metabolism (Enzyme Action, Fermentation)	170-179, 320-321, 832-839
Metabolism (Respiration)	840-846, 1125
Organism as a Whole	598-600, 847-854, 1126-1130
Growth, Development, Reproduction	322-324, 601-603, 855-856, 1320
Movements of Growth and Turgor Changes	325-327, 604-607, 1131
Germination, Renewal of Activity	608, 857, 1132
Regeneration	180-182, 609-610, 858-859, 1133
Temperature Relations	183-184, 328, 860-865, 1134-1135, 1321-1322
Radiant Energy Relations	866-868
Light Relations	185-187, 329, 611-612
Toxic Agents	188, 330, 613-614, 869-876, 1136-1141
Miscellaneous	189-194, 331-334, 615-622, 877-883, 1142-1145, 1323-1324
Soil Science	1146-1161, 1325-1342
Taxonomy of Non-Vascular Cryptogams:	
Bryophytes	195, 335-338
Lichens	196
Algae	197-198, 623
Fungi	199, 339, 624-627
Taxonomy of Vascular Plants	200-218, 340-370, 628-639, 884-893, 1343-1371
Index to Authors' Names appearing in Volume II	227

ABSTRACTORS FOR VOLUMES I AND II

Allen, C. E.	Cruess, W. V.	Halliburton, W. D.	Martin, G. H.
Anderson, F. C.	Curtis, O. F.	Halma, F. F.	Matsumoto, T.
Anderson, H. W.	Dana, S. T.	Harman, Mary T.	Melchers, L. E.
Anderson, P. J.	Darling, C. A.	Harris, J. A.	Melhus, I. E.
Andrews, A. LeRoy	Davis, B. M.	Harter, L. L.	Merrill, E. D.
Anthony, R. D.	Day, W. B.	Hartley, C.	Metcalf, H.
Arny, A. C.	Denniston, R. H.	Hawkins, L. A.	Middleton, A. R.
Artschwager, Ernst	Detlefsen, J. A.	Hayes, H. K.	Milliken, C. S.
Auchter, E. C.	Dickson, J. G.	Hazen, T. E.	Morgan, T. H.
Babcock, E. B.	Doidge, E. M.	Heald, F. D.	Morita, Koichi
Bailey, I. W.	Dorsey, M. J.	Hegner, R. W.	Morse, W. J.
Baker, F. M.	Drummond, J. C.	Hesler, L. R.	Moser, J.
Banta, A. M.	Duggar, B. M.	Hibbard, R. P.	Munns, E. N.
Barker, E. E.	Dye, H. W.	Hitchcock, A. S.	Munz, P. A.
Bartholomew, E. T.	Eames, A. J.	Hodgson, R. W.	Myers, C. E.
Bartlett, H. H.	Eckerson, Sophia	Hodson, E. R.	Nabours, R. K.
Beaumont, H.	Edgerton, C. W.	Hofmann, J. V.	Nelson, J. C.
Berry, E. W.	Edson, H. A.	Hogstad, A., Jr.	Newman, H. H.
Bessey, E. A.	Elliott, J. A.	Hooker, H., Jr.	Nichols, G. E.
Blakoslee, A. F.	Emerson, R. A.	Hori, S.	Noll, C. F.
Blodgett, F. M.	Emig, W. H.	Howe, M. A.	Norton, J. B. S.
Boas, Helene M.	Espino, R. B.	Hubert, E. E.	Olive, E. W.
Brannon, J. M.	Essig, E. O.	Hutchison, C. B.	Olson, P. J.
Bridges, C. B.	Evans, A. W.	Hyde, R. R.	Otis, C. H.
Brooks, Charles	Fwing, E. C.	Ikeno, Seitiro	Overholser, E. L.
Brotherton, Wilbur, Jr.	Farr, C. H.	Jackson, H. S.	Parker, J. H.
Brown, Elizabeth D. W.	Farwell, O. A.	Jagger, I. C.	Pearson, G. A.
Brown, W. H.	Faull, J. H.	Jones, D. F.	Pease, V. A.
Bruner, S. C.	Ferguson, Margaret C.	Kelley, W. P.	Petry, L. C.
Burlingame, L. L.	Fitzpatrick, H. M.	Kelly, W. G.	Pfeiffer, Norma E.
Bushnell, J.	Fromme, F. D.	Kempton, J. H.	Pope, M. N.
Campbell, D. H.	Frothingham, E. H.	Knudson, L.	Potter, A. A.
Carpenter, C. W.	Frye, T. C.	Korstian, C. F.	Proebsting, E. L.
Chamberlain, C. J.	Fuller, G. D.	Kraemer, Henry	Pulling, H. E.
Chamberlain, E. B.	Gager, C. S.	Kunkel, L. O.	Puttick, G. F.
Chandler, W. H.	Gallastegui, C. A.	Kurzweil, C.	Rankin, W. H.
Chrysler, M. A.	Garber, R. J.	Laughlin, H. H.	Reddick, Donald
Chupp, Charles	Gathercoal, E. N.	Lauritzen, J. I.	Reed, H. S.
Clausen, R. E.	Gerry, Eloise	Levine, I.	Reynolds, E. S.
Clute, W. N.	Gilbert, E. M.	Levine, Michael	Riddle, L. W.
Cobb, Frieda	Gleason, H. A.	Little, C. C.	Rigg, G. B.
Cockerell, T. D. A.	Goodale, H. L.	Lloyd, F. E.	Rixford, G. P.
Coker, W. C.	Gourley, J. H.	Love, H. H.	Robbins, R. B.
Cole, L. J.	Grant, Adele L.	Lund, Viggo	Robbins, W. J.
Collins, F. S.	Green, N. B.	McAllister, F. A.	Roberts, Elmer
Condit, I. J.	Greenman, J. M.	McCardy, H. M.	Rorer, J. B.
Cook, M. T.	Gregory, C. T.	McCubbin, W. A.	Rosen, H. R.
Coulter, M. C.	Gunderson, A.	McGinty, R. A.	Rosenbaum, J.
Cowles, H. C.	Gunner, F. B.	McRae, William	Rosenkrans, D. B.
Crocker, William	Hadley, P. B.	Massey, L. M.	Ross, W. H.

- | | | | |
|-------------------|-------------------|----------------------|---------------------|
| Sackett, W. G. | Shull, G. H. | Sumner, F. B. | Weimer, J. L. |
| Schmütz, Henry | Sinnott, E. W. | Surface, F. M. | Wellington, Richard |
| Schramm, J. R. | Skinner, J. J. | Surr, Gordon | Weniger, Wanda |
| Sears, P. B. | Smith, E. F. | Tammes, Tine | White, O. E. |
| Sedruz, W. E. | Smith, F. Grace | Taylor, Norman | Whiting, P. W. |
| Setchell, W. A. | Smith, L. H. | Thaxter, Roland | Whitney, D. D. |
| Severson, B. O. | Stevens, N. E. | Thom, Charles | Wiegand, K. M. |
| Shantz, H. L. | Stevenson, C. R. | Thompson, W. P. | Wilson, C. P. |
| Sharp, L. W. | Stewart, F. C. | Tapke, V. F. | Wilson, J. K. |
| shaw, J. K. | Stoll, N. R. | Trelease, S. F. | Woodcock, E. F. |
| Shear, C. L. | Stopes, Marie C. | Trelease, William | Wright, Sewall |
| Sherbakoff, C. D. | Stout, A. B. | van Herwerden, M. A. | Young, V. H. |
| Sherman, H. C. | Strasbaugh, P. D. | Viehoever, Arno | Youngken, H. W. |
| Shreve, Forrest | Sturtevant, A. H. | Waksman, S. A. | Zeller, S. M. |
| Shull, A. F. | Sudworth, G. B. | Webb, R. W. | Zufall, C. J. |

SERIAL PUBLICATIONS CITED IN VOLUMES I AND II OF BOTANICAL ABSTRACTS

This list gives the abbreviated name of each serial. The abbreviations have been planned to be self-explanatory and no key is deemed necessary. Names of persons and places are not abbreviated. It is planned that future lists will show the place of publication in every case—by means of a final bracketed place-name excepting where this name is a part of the name of the serial itself. Since it is frequently difficult for the reader to know what to regard as the initial word of the name of a serial publication, the alphabetical list has been expanded to include (in *Italics*) nearly all non-initial words, and these are followed by cross-references leading to the full name elsewhere in the list.—Most of the complete entries are followed 1) by a black-face, Arabic numeral (sometimes with a superscript numeral) and a colon, or 2) by an Arabic numeral in ordinary type, a period and then another Arabic numeral (or a dash) and the letter *p.*, for pages. These notations show how references are given to each serial in *BOTANICAL ABSTRACTS*. (1) The first case indicates that the volume-number (black-face) is given and that the first and last page numbers of the article in question follow the colon in each citation. The superscript numeral (when present) indicates the part of the volume, in cases where the several parts are paged separately. When a Roman numeral, or a letter (either in black-face type), and a comma precede the black-face Arabic numeral, the Roman numeral or letter refers to the *series*, of which the volume is a part. The black-face Arabic numeral always refers to the volume-number, whether within a series or not. When volumes bear no other numbers, the numeral representing the *year* takes the place of the volume-number. (2) The second case described above indicates that the serial is not issued in volumes, the pagination being separate in each issue and the issues being serially numbered. The Arabic numeral (ordinary type) represents the number of the issue, this being followed, in a citation, by another Arabic number (*Italics*) to show the total number of pages, and the letter *p.*—It is hoped that improvements may continue to be made in these lists, which are planned to accompany each volume of *BOTANICAL ABSTRACTS*.—*Ed.-in-Chief.*

Arsberetn. Ang. Offentl. Foranst. Land-brucketsfr. [Kristiania] 1916:

Abstr. See Zeitschr.

Abstr. See Bot. Absts.; Physiol. Absts.

Absts. Bact. [Baltimore] 2:

Acad. See Bull.; Compt. Rend.; Jour.; Proc.; Rept.; Trans.

Acad. See Ann.; Atti; Mem.; Rendic.

Annale. See R. Staz.

Arbshr. See Lunds Univ.

Africa. See Flora.

African. See South African Fruit Grower; South African Jour.

Agric. (See Agric. Exp. Sta.) See Ann.; Ann. Rept.; Bol.; Bull.; Ceylon Dept. Agric.; Compt. Rend.; Dominion [Canada] Dept. Agric.; Jour.; Madras Agric. Dept.; Maine Dept. Agric.; Mem.; Mysore Agric. Calendar; Philippine Agric.; Philippine Agric. Rev.; Porto Rico Dept. Agric.; Prog.; Quart. Bull.; Rept.; Rev.; Revist.; South

Africa Dept. Agric.; Texas Dept. Agric.; United States Dept. Agric.; Univ. Illinois.

Agric. Bull. See New York Dept. Farms.

Agric. Coll. See Kentucky Agric. Coll.; Mississippi Agric. Exp. Sta.; North Dakota Agric. Exp. Sta.; Ontario Agric. Coll.; Quart. Bull.

Agric. Exp. Sta. See name of country or state; Ann. Rept.; Bienn. Rept.; Cornell Univ. Agric. Exp. Sta.; Mem.; Monthly Bull.; Porto Rico Dept. Agric.; Rept.

Agric. Extens. See Maryland Agric. Extens. Serv.; North Carolina Agric. Extens. Serv.

Agric. Gaz. Canada [Ottawa] 5:

Agric. Gaz. New South Wales 29:

Agric. Jour. India 12:

Agric. News [Barbados] 17:

Agric. Sci. See South Africa Dept. Agric. Sci.; Univ. California.

- Agriculturist*. See Tropical Agriculturist.
Agron. See *Bol.*; *Jour.*
Agrum. See *B. Staz.*
Akad. See *Handl.*; *Land. Akad.*; *Proc.*; *Sitzungsber.*; *Verhandl.*; *Verslagen*.
Akad. Wetensch. Amsterdam 25:
Alabama Agric. Exp. Sta. Bull. 199. 26 p.
Albany. See *Bull.*; *New York State Mus.*
Allgem. Physiol. See *Zeitschr.*
Alzate. See *Mem.*
Amer. See *Bull.*; *Jour.*; *North Amer. Flora*; *North Amer. Jour.*; *Proc.*; *Sci. Amer.*; *Trans.*
Amer. Assoc. See *Jour.*
Amer. Bot. S.
Amer. Fern Jour. 8:
Amer. Forestry 25:
Amer. Jour. Anat. 25:
Amer. Jour. Bot. [Lancaster, Pennsylvania] 5:
Amer. Jour. Med. Sci. [Philadelphia] n.s. 154:
Amer. Jour. Pharm. 3:
Amer. Jour. Publ. Health [Concord, Massachusetts] 8:
Amer. Jour. Sci. [New Haven, Connecticut] 47:
Amer. Midland Nat. 5:
Amer. Mus. Jour. 18:
Amer. Nat. 53:
Amer. Rose Ann. 1918.
Amer. Soc. See *Jour.*
Ames. See *Iowa Agric. Exp. Sta.*
Amherst. See *Massachusetts Agric. Exp. Sta.*
Amsterdam. See *Acad.*; *Proc.*; *Tijdschr.*; *Verhandl.*
Analyst, 43:
Ana. See *Amer. Jour.*; *Arch.*; *Jour.*; *Virchow's Arch.*
Anat. Anzeig. 51:
Anat. Rec. 11:
Ann. See *Amer. Rose Ann.*
Ann. Appl. Biol. 4:
Ann. Bolus Herb. 2:
Ann. Botany [London] 32:
Ann. Inst. Pasteur [Paris] 32:
Ann. Mag. Nat. Hist. 3:
Ann. Meet. See *Proc.*
Ann. Missouri Bot. Gard. [St. Louis] 5:
Ann. Mus. Col. Marseilles III, 6:
Ann. Phytopath. Soc. Japan 1:
Ann. R. Accad. Agric. Torino 40:
Ann. Rept. See *Colorado Agric. Exp. Sta.*; *Maryland Agric. Exp. Sta.*; [Massachusetts] *State Nursery Inspector*.
Ann. Rept. California Avocado Assoc. 1917:
Ann. Rept. Comm. Conserv. Canada [Ottawa] 9:
Ann. Rept. Georgia Agric. Exp. Sta. 30, 31:
Ann. Rept. New Jersey Agric. Exp. Sta. 1916:
Ann. Rept. Quebec Soc. Protect. Plants 10:
Ann. Rept. Univ. Bristol. Agric. Hortie. Res. Sta. 1917:
Ann. Rept. Wisconsin State Hortie. Soc. [Madison] 42:
Ann. Roy. Bot. Gard. Peradeniya 6:
Announcem. See *United States Dept. Agric. Anstalt.* See *Jahrb.*
Anzeig. See *Anat. Anzeig.*
Apoth. See *Schweiz. Apoth. Zeitg.*
Apoth. Zeitg. 56:
Appl. See *Ann.*
Aragonesa. See *Bol.*
Arb. See *Trans.*
Art. Ges. Forderung Bau. Wirtsch. Zweckm. Verdung. Kartoffeln *Bull.* 15:
Arch. See *Schweiz. Arch.*; *Virchow's Arch.*
Arch. Entwicklungsmech. Org. 44:
Arch. Exp. Pathol. Pharm. 84:
Arch. Mikrosk. Anat. 82:
Arch. Néerland. Sci. Exactes et Nat. [La Haye] 3:
Arch. Protistenk. 38:
Arch. Rassen u. Gesellschafts-Biol. 11:
Arch. Sci. Phys. Nat. Genève 46:
Arkansas Agric. Exp. Sta. [Fayetteville, Ark.] 144. — p.
Ark. Dansk. Botanisk. Ark.
Ark. for Bot. 15:
Arkansas Agric. Exp. Sta. [Fayetteville, Ark.] 41. — p.
Arsskr. See *Lunds Univ.*
Arts. See *Proc.*; *Trans.*
Asiatic. See *Jour.*
Assoc. See *Ann. Rept.*; *Bull.*; *Jour.*; *Official Minutes*; *Proc.*; *Rept.*; *Wisconsin Potato Growers' Assoc.*
Atlanta. See *Georgia State Bd.*
Atti R. Accad. Lincei, Rend. V (Cl. Sci. Fis. Mat. e Nat.) 27:
Austin. See *Texas Dept. Agric.*
Avic. Mag. 9:
Avocado. See *Ann. Rept.*
Bact. See *Absts.*; *Jour.*
Bact. Ser. See *Mem.*
Bakt. See *Centralbl.*
Baltimore. See *Absts.*; *Bot. Absts.*; *Jour. Plant World*; *Physiol. Rep.*; *Phytopath.*; *Soil Sci.*

- Barbados.* See Agric. News; West Indian Bull.
Batavia. See Mededeel.
Baton Rouge. See Louisiana Agri. Exp. Sta.
Bau. See Arb.
Bd. See Quart. Bull.
Bd. Agric. See Jour.; Rept.
Bd. Forestry. See Maryland State Bd. Forestry.
Beih. Bot. Centralbl. [Cassel] 35:
Belg. See Recueil.
Ber. Deutsch. Bot. Ges. [Berlin] 33:
Ber. Deutsch. Pharm. Ges. 28:
Ber. Ohara Inst. Landw. Forsch. [Kuraschiki] 1:
Berkeley. See California Agric. Exp. Sta.; Univ. California.
Berlin. See Ber.; Sitzungsber.
Berord. See Mededeel.
Bibl. Genet. 1:
Bienn. Rept. Direct. North Dakota Agric. Exp. Sta. 6:
Bienn. Rept. Soil and Geol. Surv. North Dakota 6:
Bijbl. See Tijdschr.
Biochem. Jour. 12:
Biochem. Zeitschr. 86:
Biol. See Ann.; Bol.; Compt. Rend.; Jour.; Michigan Geol. Biol. Surv.; Monographs; Proc.; Puget Sound Biol. Sta.
Biol. Bull. [Woods Hole] 32:
Biol. Centralbl. [Leipzig] 37:
Biol. Meddel. See Danske Videnskab. Selskab.
Biol. Ser. See Michigan Geol. Biol. Surv.
Biometrika 12:
Blacksburg. See Rept.; Virginia Agric. Exp. Sta.
Blätter Zuckerrüben-bau [Prag] 24:
Bloomington. See Indiana Univ. Studies.
Böhen. See Zeitschr.
Bol. Agric. São Paulo 19:
Bol. Dir. Estud. Biol. 2:
Bol. Estac. Exp. Agron. Cuba 38:
Bol. Soc. Aragonesa Sci. Nat. 17:
Bol. R. Soc. Española Hist. Nat. 18:
Bologna. See Mem.; Scientia.
Bolus. See Ann.
Boschbouwk. Tijdschr. Tectona 11:
Boston. See Trans.
Bot. See Amer. Bot.; Amer. Jour.; Ann.; Ark.; Beih.; Ber.; Broteria.; Bull.; Curtis's Bot. Mag.; Jahrb. Wiss. Bot.; Jour.; Mem.; Oesterreich. Bot. Zeitschr.; Rec.; Recueil.; Rev.; Svensk. Bot. Tidskr.; Univ. California; Zeitschr.
Bot. Gard. See Ann.; Jour.; Leaf.; Mem.; Notes; Rec.
Bot. Absts. [Baltimore] 1, Entry —
Bot. Gaz. [Chicago] 66:
Bot. Mag. Tokyo 32:
Bot. Museumshefte [Füzetek] 2:
Bot. Notiser [Lund] 1916:
Bot. Ser. See Mem.
Bot. Ser. Field Mus. Nat. Hist. [Chicago] 4:
Bot. Tidsskr. [Kjöbenhavn] 36:
Botanikai Közlemények 1917:
Botanisk. See Dansk Botanisk. Ark.
Botany. See Ann.; Jour.
Botany of Iceland 1:
Bozeman. See Montana Agric. Exp. Sta.
Breeding. See Rept.
Bristol. See Ann. Rept.
British Guiana. See Jour.
British India. See Bull.
Brooklyn. See Leaf.; Mem.; Rec.
Brooklyn Bot. Gard. See Leaf.; Mem. Rec.
Broteria. Ser. Bot. 16:
Bryologist 21:
Bull. See Alabama Agric. Exp. Sta.; Ark.; Arkansas Agric. Exp. Sta.; Biol. Bull.; California Agric. Exp. Sta.; Colorado Agric. Exp. Sta.; Connecticut Agric. Exp. Sta.; Cornell Univ. Agric. Exp. Sta.; Dept. Agric.; Dominion [Canada] Exp. Fruit Farm; Eugenica Rec. Office; Florida Agric. Exp. Sta.; Georgia State Bd.; Illinois Agric. Exp. Sta.; Kansas Agric. Exp. Sta.; Kansas Univ. Sci. Bull.; Kew Bull.; Lilly Sci. Bull.; Louisiana Agric. Exp. Sta.; Maine Dept. Agric.; Maryland Agric. Exp. Sta.; Maryland Agric. Extens. Serv.; Massachusetts Agric. Exp. Sta.; Michigan Agric. Exp. Sta.; Minnesota Agric. Exp. Sta.; Mississippi Agric. Exp. Sta.; Montana Agric. Exp. Sta.; Monthly Bull.; Nebraska Agric. Exp. Sta.; New Hampshire Agric. Exp. Sta.; New York [State] Agric. Exp. Sta.; New York Conserv. Comm.; New York Dept. Farms; New York State Mus.; Ohio Agric. Exp. Sta.; Ontario Agric. Coll.; Oregon Agric. Exp. Sta.; Pennsylvania State Coll.; Quart. Bull.; Rhode Island Agric. Exp. Sta.; South Africa Dept. Agric.; South Africa Dept. Agric. Sci.; South Carolina Agric. Exp. Sta.; R. Staz.; Storrs [Connecticut] Agric. Exp.

- Sta.; Texas Agric. Exp. Sta.; Texas Dept. Agric.; United States Bur. Plant, Ind.; United States Forest Service; United States Nation. Mus.; United States Weather Bur.; Utah Agric. Exp. Sta.; Virginia Agric. Exp. Sta.; Virginia Polytech. Inst.; Washington [State] Agric. Exp. Sta.; West Indian Bull.; West Virginia Agric. Exp. Sta.; Wisconsin Agric. Exp. Sta.
- Bull. Agric. Res. Inst. Pusa [British India] 78:
- Bull. Dept. Agric. Federated Malay States [Kuala Lumpur] 6:
- Bull. Dept. Agric. Trinidad a Tobago 16:
- Bull. Geographie Bot. 1918:
- Bull. Geol. Soc. Amer. 29:
- Bull. Jard. Bot. Buitenzorg 26:
- Bull. Lab. Nat. Hist. Univ. Iowa 7:
- Bull. New York State Mus. [Albany] 1917:
- Bull. Soc. Bot. Genève 9:
- Bull. Soc. Geol. France IV, 17:
- Bull. Soc. Hortie. Tunis 16:
- Bull. Soc. Mycol. France 34:
- Bull. Soc. Pathol. Vég. France [Paris] 4:
- Bull. Soc. Sci. Nat. Vaudoise 52:
- Bull. Southern California Acad. Sci. 17:
- Bull. Torrey Bot. Club [Lancaster, Pennsylvania] 45:
- Bull. Wisconsin Potato Growers' Assoc. [Madison] 3:
- Buitenzorg. See Bull.
- Bur. Plant Ind. See United States Bur. Plant Ind.
- Bur. Sci. See Philippine Bur. Sci.
- Byo-chu-gai Zasshi [Jour. Plant Protect.] 54:
- Calendar. See Mysore Agric. Calendar.
- California. See Ann. Rept.; Bull.; Monthly Bull.; Univ. California.
- California Agric. Exp. Sta. [Berkeley] Bull. 297, 72p.
- California Agric. Exp. Sta. [Berkeley] Circ. 180. —p.
- California Citrograph 5:
- California Cultiv. 50:
- Cambridge. See Contrib.; Jour.; Trans.
- Canada. See Agric. Gaz.; Ann. Rept.; Dominion [Canada] Dept. Agric.; Dominion [Canada] Exp. Fruit Farm; Trans.
- Canadian Forest Jour. 14:
- Canadien. See Naturaliste Canadien.
- Cancer. See Jour.
- Carlsberg. See Compt. Rend.
- Carnegie Inst. See Year Book.
- Carnegie Inst. Washington [D. C.] Publ. 269, 62 p.
- Carnegie Inst. Washington [D. C.] Year Book 17:
- Cascl. See Beih.
- Centralbl. Bakt. Parasitenk. Infektionskrankh. 59:
- Centralbl. See Beih.; Biol. Centralbl.; Landw. Centralbl.; Neurol. Centralbl.
- Ceylon Dept. Agric. [Peradeniya] Leaf. 2. —p.
- Chem. See Drug and Chem. Markets; Hoppe-Seylers Zeitschr.; Jour.; Zeitschr.
- Chem. and Druggist 90:
- Chicago. See Bot. Gaz.; Bot. Ser.; Jour.
- Chim. See Jour.; Recueil.
- Chron. See Gard. Chron.
- Cienc. See Trab.
- Cincinnati. See Mycological Notes.
- Circ. See Arkansas Agric. Exp. Sta.; California Agric. Exp. Sta.; Georgia State Bd.; Illinois Agr. Exp. Sta.; Indiana Agric. Exp. Sta.; Iowa Agric. Exp. Sta.; Kansas Agric. Exp. Sta.; Kentucky Agric. Coll.; Louisiana Agric. Exp. Sta.; New Jersey Agric. Exp. Sta.; North Carolina Agric. Ext. Serv.; North Dakota Agric. Exp. Sta.; United States Dept. Agric.; Wisconsin Agric. Exp. Sta.
- Citrograph. See California Citrograph.
- Cl. Sci. Fis. See Atti.
- Clemson College. See South Carolina Agric. Exp. Sta.
- Club. See Bull.; Jour.; Mem.
- Coll. See Jour.; Kentucky Agric. Coll.; Ontario Agric. Coll.; Pennsylvania State Coll.; Quart. Bull.
- Coll. Agric. See Jour.; New York Coll. Agric.; Univ. Illinois.
- Coll. Sci. See Journ.; Mem.
- Collection. See Smithsonian Inst.
- College Park. See Maryland Agric. Exp. Sta.; Maryland Agric. Extens. Serv.
- College Station. See Texas Agric. Exp. Sta.
- Colorado Agric. Exp. Sta. [Fort Collins] Ann. Rept. 30:
- Colorado Agric. Exp. Sta. [Fort Collins] Bull. 239:
- Coltivatore 64:
- Compt. Rend. Acad. Agric. France [Paris] 4:
- Compt. Rend. Acad. Sci. Paris 165:
- Compt. Rend. Soc. Biol. Paris 81:

- Compt. Rend. Soc. Sci. Varsovie 9:
 Compt. Rend. Trav. Lab. Carlsberg [Kjöbenhavn] 11:
Comm. See Ann. Rept.
Comm. Hortic. See Monthly Bull.
Concord. See Amer. Jour.
Connecticut. See Rept.; Trans.
 Connecticut Agric. Exp. Sta. [New Haven] Bull. 199. — p.
 Connecticut Agric. Exp. Sta. [New Haven] Rept. 1916:
Conserv. See Ann. Rept., Iowa Conserv.; New York Conserv. Comm.
 Contrib. Gray Herb. Harvard Univ. [Cambridge, Massachusetts] n.s. 53:
 Contrib. United States Nation. Herb. [Washington, D. C.] 20. — p.
Corn. See Rev.
 Cornell Univ. See Mem.; New York Coll. Agric.
 Cornell Univ. Agric. Exp. Sta. [Ithaca] Bull. 393. — p.
Corvallis. See Oregon Agric. Exp. Sta.
Cranberry. See Proc.
Cuba. See Bol.; Rev.
Cultiv. See California Cultiv.
 Curtis 29:
 Curtis's Bot. Mag.
 Danske. See Overs.
 Dansk. Botanisk. Ark. 2:
 Danske Videnskab. Selskab. Biol. Meddel. 1:
Deli-Proefsta. See Mededeel.
Dept. Agric. See Bull.; Ceylon Dept. Agric.; Dominion [Canada] Dept. Agr.; Jour.; Maine Dept. Agric.; Mem.; Porto Rico Dept. Agric.; Quart Bull.; South Africa Dept. Agric.; Texas Dept. Agric.; United States Dept. Agric.
 Dept. Agric. New South Wales Farmers' Bull. 116:
Dept. Agric. Sci. See South Africa Dept. Agric. Sci.
Dept. Farms. See New York Dept. Farms.
Dept. Landb. See Mededeel.
Deutsch. See Ber.; Flugschr.
Dir. See Bol.
Direct. See Bienn. Rept.
Disease. See United States Bur. Plant Ind.
Diseases. See Jour.
Distrib. Assoc. See Official Minutes.
 Dominion [Canada] Dept. Agric., Entomol. Branch, Forest Insect Div. Ottawa 1918. — p.
 Dominion [Canada] Exp. Fruit Farm Bull. 35. 18 p.
Dresden. See Hedwigia.
 Drug and Chem. Markets 5:
Druggist. See Chem.
 Dublin. See Jour.; Sci. Proc.
 Durham. See New Hampshire Agric. Exp. Sta.
East Lansing. See Michigan Agric. Exp. Sta.; Rept.
Eaux. See Rev.
Ecol. See Jour.
Edinburgh. See Notes.; Proc.; Trans.
Educator. See Inter-Mountain Educator.
Elect. See Gen. Elect. Rev.
Elisha Mitchell Sci. Soc. See Jour.
Eng. See Proc.; Trans.
Eng. Chem. See Jour.
 Engel no Tomo [Horticulturists' Friend] 14:
Entomol. See Dominion [Canada] Dept. Agric.; Georgia State Bd.; Proc.; Rept.
Entwicklungsmech. See Arch.
Española. See Bol.
Estac. See Bol.
Estud. See Bol.
Etudes Div. See Rescœuil.
 Eugenes Rec. Office Bull. 19:
Exchange. See Florists' Exchange.
Exp. See Arch.; Bol.
Exp. Biol. See Monographs; Proc.
Exp. Fruit Farm. See Dominion [Canada] Exp. Fruit Farm.
Exp. Med. See Jour.
Exp. Sta. See name of country or state; Ann. Rept.; Bienn. Rept.; Cornell Univ. Agric. Exp. Sta.; Mem.; Monthly Bull.; Porto Rico Dept. Agric.
Exp. Zool. See Jour.
Extens. Bull. See New York Coll. Agric.; Virginia Polytech. Inst.
Extens. Circ. See Kentucky Agric. Coll.; Louisiana Agric. Exp. Sta.; Univ. Illinois; Wisconsin Agric. Exp. Sta.
Extens. Serv. See Maryland Agric. Extens. Serv.; North Carolina Agric. Extens. Serv.
Farm. See Dominion [Canada] Exp. Fruit Farm.
Farmers' Bull. See Dept. Agric.; United States Dept. Agric.
Farms. See New York Dept. Farms.
 Fauna och Flora 1918:
Fayetteville. See Arkansas Agric. Exp. Sta.
Federal Hortic. Bd. See United States Dept. Agric.

- Federal Hortic. Bd. [United States] [Washington, D. C.] Quart. Letter Inf. 25. — p.
Federated Malay States. See Bull.
Fermentforschung 2:
Fern. See Amer. Fern. Jour.
Fig and Olive Jour. 3:
Field Mus. See Bot. Ser.
Fisherman. See Pacific Fisherman.
Flora 110:
Flora. See Fauna; North Amer. Flora.
Flora Trop. Africa 9:
Florida. See Quart. Bull.
Florida Agric. Exp. Sta. [Gainesville] Bull. 147:
Florida Agric. Exp. Sta. [Gainesville] Rept. 1917:
Florida Grower 17¹⁰
Florida State Plant Bd. [Gainesville] Quart. Bull. 2:
Florists' Exch. 47:
Flugschr. Deutsch. Land.-Ges. 13:
Förderung. See Arb.
Fören. See Geol. Fören Förhandl.
Förhandl. See Geol. Fören Förhandl.; Overs.
Foranst. See Aarsberetn.
Forest. See Canadian Forest Jour.; Dominion [Canada] Dept. Agric.; Indian Forest Rec.; Jour.; Philippine Agric.; Quart. Jour.; United States Forest Serv.
Forester. See Indian Forester.
Forestry. See Amer. Forestry; Jour.; Maryland State Bd. Forestry.
Forêts. See Rev.
Forsch. See Ber.
Fort Collins. See Colorado Agric. Exp. Sta.
France. See Bull.; Compt. Rend.; Jour.
Franklin Inst. See Jour.
Fruit Farm. See Dominion [Canada] Exp. Fruit Farm.
Fruit Grower. See South African Fruit Grower.
Fruit Growers. See Proc.
Fruil. See R. Staz.
Füzelek. See Bot. Mus.
Gainesville. See Florida Agric. Exp. Sta.; Florida State Plant Bd.
Gard. See Am.; Jour. Leaf.; Mem.; Notes; Rec.
Gard. Chron. 64:
Gartenzeitg. See Oesterreich. Gartenzeitg.
Gaz. See Agric. Gaz.; Bot. Gaz.
Gén. Bot. See Rev.
Gen. Elect. Rev. 21:
Gen. Physiol. See Jour.
Gén. Sci. See Rev.
Genet. See Bibl.
Genetics 2:
Genetics. See Jour.
Geneva. See New York [State] Agric. Exp. Sta.
Genève. See Arch.; Bull.; Mem.
Genusmit. See Zeitschr.
Geog. Rev. 5:
Geographie. See Bull.
Geol. See Bienn. Rept.; Bull.; Jour.; Michigan Geol. Biol. Surv.; Queensland Geol. Surv.; United States Geol. Surv.
Geol. Fören. Förhandl. 40:
Geol. Mag. 5:
Geol. Surv. See Queensland Geol. Surv.
Georgia. See Ann. Rept.
Georgia State Bd. Entomol. [Atlanta] Bull. 51, — p.
Georgia State Bd. Entomol. [Atlanta] Circ. 28, — p.
Ges. See Arb.; Ber.; Mitt.
Gesellschafts-Biologie. See Arch.
Gids. See Social Gids.
Grain Growers. See Proc.
Gray Herb. See Contrib.
Grower. See Florida Grower; South African Fruit Grower.
Growers. See Bull.; Proc.; Rept.; Wisconsin Potato Growers' Assoc.
Guam Agric. Exp. Sta. See Rept.
Guelph. See Ontario Agric. Coll.
Halle a. S. See Mitt.
Hamburg. See Jahrb.
Handl. See Land. Akad.
Handl. K. Svensk. Vet. Akad. [Stockholm] 58:
Handl. Tidskr. K. Landbr. Akad. [Stockholm] 57:
Harvard. See Contrib.
Havraise. See Recueil.
Hawaii Agric. Exp. Sta. Rept. [Washington, D. C.] 1918:
Health. See Amer. Jour.; United States Public Health.
Hedwigia [Dresden] 60:
Heft. See Bot. Mus.
Herb. See Ann.; Contrib.; Mededeel.
Heredity. See Jour.
Hints. See New Jersey State Hints.
Hist. See Ann.; Bol.; Bull.
Hist. Nat. See Mem.
Homoeop. See North Amer. Jour.

- Hoppe-Seyler's Zeitschr. Physiol. Chem. 102:
Hortic. See Ann. Rept.; Bull.; Jour.;
 Minnesota *Hortic.*; Monthly Bull.;
 Proc.; Trans.; Wisconsin *Hortic.*
Hortic. Bd. See United States Dept. Agric.
- Iceland.* See Botany.
Illinois. See Trans.; Univ. Illinois.
Illinois Agric. Exp. Sta. [Urbana] Bull. 212.
 — p.
Illinois Agric. Exp. Sta. [Urbana] Circ. 221.
 4 p.
Illinois Agric. Exp. Sta. [Urbana] Soil Rept.
 18. 61 p.
Illustr. Landw. Zeitg. 36:
Imp. Univ. See Jour.; Mem.
India. See Agric. Jour.; Mem.; Rec.
Indian. See West Indian Bull.
Indian Forest Rec. 6:
Indian Forester 44:
Indian Jour. Med. Res. 6:
Indiana. See Proc.; Trans.
Indiana Agric. Exp. Sta. [La Fayette] Circ.
 87. 12 p.
Indiana Univ. Studies [Bloomington] 5 (no.
 36). — p.
Indische Mercuur 90:
Indukt. Abstam. See Zeitschr.
Indust. See Jour.; South African Jour.
Indust. Chem. See Jour.
Inf. See Kew Bull.; United States Dept.
 Agric.
Infect. See Jour.
Infektionskrankh. See Centralbl.
Insect. See Dominion [Canada] Dept. Agric.
Inspector. See [Massachusetts] State Nur-
 sery Inspector.
Inst. See Ann.; Ber.; Bull.; Carnegie
 Inst.; Jour.; Proc.; Rendic; Trans.;
 Virginia Polytech. Inst.; Year Book.
Instruct. See Jour.
Inter-Mountain Educator.
Internal. Gard. Club. See Jour.
Invest. See Jour.
Iowa. See Bull.; Proc.
Iowa Agric. Exp. Sta. [Ames] Circ. 57, 8 p.
Iowa Agric. Exp. Sta. [Ames] Res. Bull. 44.
 — p.
Iowa Conserv. 21.
Ireland. See Jour.
Ithaca. See Cornell Univ. Agric. Exp. Sta.;
 Mem.; New York Coll. Agric.
- Jahrb.* See Zool. Jahrb.
Jahrb. Hamburg. Wiss. Anstalt 31:
Jahrb. Wiss. Bot. 58:
*Jahresber. Schweiz. Samenunter- u. Ver-
 suchsanst.* [Oerlikon-Zürich] 39:
Japan. See Ann.
Japanese Assoc. See Rept.
Jard. See Bull.
Jour. See Agric. Jour.; Amer. Fern. Jour.;
 Amer. Jour.; Amer. Mus. Jour.;
 Biochem. Jour.; Canadian Forest. Jour.;
 Fig and Olive Jour.; Indian Jour.; New
 Zealand Jour.; North Amer. Jour.;
 Ohio Jour.; Pharm. Jour.; Philippine
 Jour. Sci.; Quart. Jour.; Rel. Poultry
 Jour.; South African Jour.
Jour. Agric. Prat. 31:
Jour. Agric. Res. [Washington, D. C.] 13:
Jour. Agric. Sci. [Cambridge, England] 8:
Jour. Agric. Victoria 16:
*Jour. Amer. Assoc. Instruct. Invest. Poultry
 Husb.* 3:
Jour. Amer. Chem. Soc. 40:
Jour. Amer. Med. Assoc. 72:
Jour. Amer. Pharm. Assoc. 7:
Jour. Amer. Soc. Agron. [Lancaster, Penn-
 sylvania] 10:
Jour. Anat. 52:
Jour. and Proc. Soc. West Australia 3:
Jour. Bact. [Baltimore] 3:
Jour. Bd. Agric. British Guiana 11:
Jour. Bd. Agric. [London] 24:
Jour. Biol. Chem. [Baltimore] 33:
Jour. Botany 56:
Jour. Cancer Res. 3:
Jour. Chem. Soc. London (Trans.) 113:
Jour. Coll. Agric. Sapporo 7:
Jour. Coll. Sci. Imp. Univ. Tōkyō 39:
Jour. Dept. Agric. Porto Rico 2:
Jour. Dept. Agric. Tech. Instruct. Ireland
 [Dublin] 17:
Jour. Dept. Agric. Victoria 15:
Jour. Ecol. 6:
Jour. Elisha Mitchell Sci. Soc. 34:
Jour. Exp. Med. 28:
Jour. Exp. Zool. 25:
Jour. Forest. Suisse 69:
Jour. Forestry 16:
Jour. Franklin Inst. 185:
Jour. Gen. Physiol. 1:
Jour. Genetics 7:
Jour. Geol. Soc. Tōkyō 25:
Jour. Heredity 9:
Jour. Indust. Eng. Chem. 10:
Jour. Infect. Diseases [Chicago] 4:
Jour. International. Gard. Club 2:
Jour. Landw. 55:

- Jour. Linnaean Soc. London [Bot.] 44:
 Jour. Massachusetts Poultry Soc. 1:
 Jour. Med. Res. n.s. 33:
 Jour. Morphol. 31:
 Jour. New York Bot. Gard. [New York] 19:
 Jour. Pathol. and Bact. 22:
 Jour. Pharm. et Chim. VII, 33:
 Jour. Roy. Hortie. Soc. [London] 43:
 Jour. Roy. Microsc. Soc. [London] 1918:
 Jour. Soc. Chem. Indust. (Trans.) 37:
 Jour. Soc. Nation. Hortie. France 19:
 Jour. Straits Branch Roy. Asiatic Soc. (no.) 79:
 Jour. Washington [D. C.] Acad. Sci. 8:
Ju. See *Qua Ju.*
- Kansas.* See Trans.
Kansas Agric. Exp. Sta. [Manhattan] Bull. 5, 39 p.
Kansas Agric. Exp. Sta. [Manhattan] Circ. 63. — p.
Kansas Univ. [Lawrence] Sci. Bull. 10:
Kartoffeln. See Arb.
Kentucky Agric. Coll. Extens. Circ. 67, 43 p.
Kew Bull. Misc. Inf. [London] No. 5. — p.
Khoz. See Selsk.
Kingston. See Rhode Island Agric. Exp. Sta.
Kjöbenhavn. See Bot. Tidsskr.; Compt. Rend.; Tidsskr.
Klinisch. See Virchow's Arch.
Közlemények. See Botanikai Közlemények.
Kolloid-Zeitschr. 23:
Kristiania. See Aarsberetn.; Skogdirekt.
Kuala Lumpur. See Bull.
Kurashiki. See Bull.
Kwashi. See Nogakukwa Kwaiho.
Kyoto. See Mem.
- La Fayette.* See Indiana Agric. Exp. Sta.
La Hage. See Arch.
Lab. See Bull.; Compt. Rend.; Mededeel.
Lafayette. See Indiana Agric. Exp. Sta.
Lancaster. See Amer. Jour.; Bull.; Jour.; Mem.; Mycologia; Sci. Monthly; Science.
Land. Akad. Handl. och Tidskr. 57:
Landbouw. See Mededeel.
Landbr. See Handl.; Tidsskr.
Landbruksförs. See Aarsberetn.
Landw. See Ber.; Illustr. Landw. Zeitg.; Jour.
Landw. Centralbl. Prov. Posen.
Landw.-Ges. See Flugschr.
Landw. Versuchsst. 91:
Lansing. See Michigan Geol. Biol. Surv.
- Lawrence.* See *Kansas* Univ. Sci. Bull.
Leaf. Brooklyn Bot. Gard. [Brooklyn] 6:
Leiden. See Mededeel.
Leipzig. See Biol. Centralbl.
Lett. See Rendic.
Letter. See United States Dept. Agric.
Lieser. See Selsk.
Lilly Sci. Bull. 1:
Lincei. See Atti.; Rendic.
Lincoln. See Nebraska Agric. Exp. Sta.
Linnaean. See Jour.; Proc.
Local Ser. See South Africa Dept. Agric.
Logan. See Utah Agric. Exp. Sta.
Lombardo. See Rendic.
London. See Ann.; Jour.; Kew Bull.; New Phytol.; Pharm. Jour.; Phil. Trans.; Proc.
Louisiana Agric. Exp. Sta. [Baton Rouge] Bull. 164. — p.
Louisiana State Univ. [Baton Rouge] Extens. Circ. 28. — p.
Lund. See Bot. Notiser.
Lunds. Univ. Årsskr. n.f. II, 14:
- Madison.* See Ann. Rept.; Bull. Wisconsin Agric. Exp. Sta.
Madras. Agric. Dept. Year Book 1917:
Madrid. See Trab.
Madrona 1:
Mag. See Ann.; Avic. Mag.; Bot. Mag.; Curtis's Bot. Mag.; Geol. Mag.
Maine. See Quart. Bull.
Maine Dept. Agric. Bull. 173:
Malay. See Bull.
Malpighia 28:
Manhattan. See *Kansas* Agric. Exp. Sta.
Markets. See Drug and Chem. Markets; New York Dept. Farms.
Marseilles. See Ann.
Maryland. See Rept.
Maryland Agric. Exp. Sta. [College Park] Ann. Rept. 30:
Maryland Agric. Exp. Sta. [College Park] Bull. 211:
Maryland Agric. Extens. Serv. [College Park] Bull. 11. — p.
Maryland State Bd. Forestry 1916-17:
Massachusetts. See Jour.; Trans.
Massachusetts Agric. Exp. Sta. [Amherst] Bull. 183: 11-46.
[Massachusetts] State Nursery Inspector Ann. Rept. 16:
Math. See School.
Med. See Amer. Jour.; Indian Jour.; Jour.; Proc.; Virchow's Arch.

- Med. Res.* See Jour.
Medan. See Mededeel.
Meddel. See Danske Videnskab. Selskab.
Meddel. Stat. Skogsforsöksanst. [Stockholm] 13:
Mededeel. Deli-Proefsta. Medan. 10:
Mededeel. Dept. Landbouw Suriname 13. 2 p.
Mededeel. Lab. Plantenz. Batavia 30:
Mededeel. Rijks Herb. Leiden 32:
Mededeel. Ver. Bevoord. Wetensch. Teelt Nederland 6:
Melon Distrib. Assoc. See Official Minutes.
Mem. Brooklyn Bot. Gard. [Brooklyn] 1:
Mem. Coll. Sci. Kyoto Imp. Univ. 3:
Mem. Cornell Univ. Agric. Exp. Sta. [Ithaca] 16:
Mem. Dept. Agric. India. (Bact. Ser.) 1:
Mem. Dept. Agric. India. (Bot. Ser.) 8:
Mem. R. Accad. Bologna 8¹¹¹:
Mem. Soc. Alzate 37:
Mem. Soc. Phys. et Hist. Nat. Genève 38⁴:
Mem. Torrey Bot. Club. [Lancaster, Pennsylvania] 17:
Merck's Rept. 27:
Mercur. See Indische Mercur.
Mexico. See Rev.
Michigan. See Quart. Bull.; Rept.
Michigan Agric. Exp. Sta. [East Lansing] Special Bull. 85. — p.
Michigan Agric. Exp. Sta. [East Lansing] Tech. Bull. 43. 47 p.
Michigan Geol. Biol. Surv. [Lansing] Publ. 26. (Biol. Ser. 5.) — p.
Microsc. See Jour.; Trans.
Midland. See Amer. Midland Nat.
Mitrosk. See Arch.
Müllers. See Proc.
Mining Eng. See Trans.
Minnesota Agric. Exp. Sta. [St. Paul] Bull. 174. 69 p.
Minnesota Hortie. 46:
Minutes. See Official Minutes.
Misc. Collect. See Smithsonian Inst.
Misc. Inf. See Kew Bull.
Mississippi Agric. Exp. Sta. [Agricultural College] Bull. 184. — p.
Mississippi Agric. Exp. Sta. [Agricultural College] Tech. Bull. 8. — p.
Missouri. See Ann.
Mitt. Naturforsch. Ges. [Halle a. S.] 4:
Monographs Exp. Biol. 1:
Montana Agric. Exp. Sta. [Bozeman] Bull. 121. — p.
Monthly. See Scientific Monthly.
Monthly Bull. See Ohio Agric. Exp. Sta.
Monthly Bull. Comm. Hortie. California [Sacramento] 7:
Monthly Bull. Ohio Agric. Exp. Sta. 3:
Monthly Weather Rev. [Washington, D. C.] 46:
Morgantown. See West Virginia Agric. Exp. Sta.
Morphol. See Jour.
Mus. See Amer. Mus. Jour.; Ann.; Bot. Mus.; Bull.; New York State Mus.; Trab.; United States Nation. Mus.
Museum Work 1.
Muz. See Bot. Mus.
Mycol. See Bull.; Trans.
Mycologia [Lancaster, Pennsylvania] 10:
Mycological Notes [Cincinnati] 53. — p.
Mysore Agric. Calendar 1919:
Nahrungsmit. See Zeitschr.
Nat. See Amer. Midland Nat.; Amer. Nat.; Ann.; Bot.; Bull.
Nat. Hist. See Bot. Ser.; Bull.; Trans.
Nation. See Jour.
Nation. Acad. See Proc.
Nation. Herb. See Contrib.
Nation. Mus. See United States Nation. Mus.
Naturaliste Canadien 44:
Nature 101:
Nature Study Rev. 14:
Naturforsch. See Mitt.; Verhandl.
Naturwiss. 4:
Nebraska Agric. Exp. Sta. [Lincoln] Bull. 163. — p.
Nederland. See Mededeel.
Néerland. See Arch.; Recueil.
Neurol. See Psychol.-Neurol. Wochenschr.; Schweiz. Arch. Neurol. Centralbl. 1918:
New Brunswick. See New Jersey Agric. Exp. Sta.
New Hampshire Agric. Exp. Sta. [Durham] Bull. 190. 49 p.
New Haven. See Amer. Jour.; Connecticut Agric. Exp. Sta.
New Jersey. See Ann. Rept.
New Jersey Agric. Exp. Sta. See Rept.
New Jersey Agric. Exp. Sta. [New Brunswick] Circ. 88. — p.
New Jersey State Hints Poultrymen 5. — p.
New Phytol. [London] 17:
New South Wales. See Agric. Gaz.; Dept. Agric.; Proc.
New York. See Bull.; Jour.; Proc.
New York Coll. Agric. Cornell Univ. [Ithaca] Extens. Bull. 21. — p.

- New York Conserv. Comm. Bull. 15. 18 p.
 New York Dept. Farm., Markets, Agric. Bull. 106. — p.
 New York [State] Agric. Exp. Sta. [Geneva] Bull. 436. — p.
 New York State Mus. [Albany] Bull. 197:
New Zealand. See Trans.
 New Zealand Jour. Sci. Tech. 1918:
News. See Agric. News.
 Nogakukwai [Rept. Agron. Kwaiko Soc.] 190:
 Nogyo Seka [Agric. World] 134:
 North Amer. Jour. 22:
 North Amer. Jour. Homeop.
 North Carolina Agric. Extens. Serv. [West Raleigh] Circ. 61. 4 p.
 North Dakota. See Bienn. Rept.; Quart. Jour.
 North Dakota Agric. Exp. Sta. [Agricultural College] Circ. 14. — p.
 Not. Syst. 3:
Notes. See Mycological Notes.
 Notes. Roy. Bot. Gard. Edinburgh. 10:
Notiser. See Bot. Notiser.
 Nova Scotia. See Proc.
 Nursery Inspector. See [Massachusetts] State Nursery Inspector.
Oerlikon-Zürich. See Jahresber.
 Oesterreich. Bot. Zeitschr. 67:
 Oesterreich. Gartenzeitg. 13:
Offentl. Foranst. See Aarsberetn.
Office. See Eugenics Rec. Office.
 Official Minutes Melon Distrib. Assoc. 4:
 Ohara. See Ber.
 Ohio Agric. Exp. Sta. [Wooster] Bull. 310. — p.
 Ohio Agric. Exp. Sta. [Wooster] Monthly Bull. 3:
 Ohio Jour. Sci. 17:
Olive. See Fig and Olive Jour.
 Ontario Agric. Coll. [Guelph] Bull. 258. — p.
 Oregon Agric. Exp. Sta. [Corvallis] Bull. 149. — p.
 Ottawa. See Agric. Gaz.; Dominion [Canada] Dept. Agric.; Rept. Ann.
 Overs. K. Danske Videnskab. Selskab. Förhandl. 1915:
 Pacific Fisherman 171:
 Pacific Rural Press 9610:
Parasitenk. See Centralbl.
 Paris. See Ann.; Bull.; Compt. Rend.; Rev.
 Park Comm. See Rept.
 Pasteur. See Ann.
Patol. See Rivist.
Pathol. See Arch.; Bull.; Jour.; Rept.; Virchows Arch.
Pays Bas. See Recueil.
 Penn Yan. See Proc.
 Pennsylvania State Coll. Bull. 153. 31 p.
Peradeniya. See Ann.; Ceylon Dept. Agric.
Pflanzenkrankh. See Zeitschr.
Pflanzenzücht. See Zeitschr.
Pharm. See Amer. Jour.; Arch.; Ber.; Jour.
Pharm. See Amer. Jour.; Arch.; Ber.; Jour.
 Pharm. Jour. [London] 10:
 Pharm. Weekblad 55:
 Pharm. Zeitzg. 63:
Phil. See Proc.; Trans.
 Phil. Trans. Roy. Soc. London B, 208:
Philadelphia. See Amer. Jour.; Proc.
 Philippine Agric. Forest. 6:
 Philippine Agric. Rev. 10:
 Philippine Bur. Sci. Publ. 12.—p.
 Philippine Jour. Sci. (Bot.) 13:
Phys. See Mem.
Physiol. See Hoppe-Seylers Zeitschr.; Jour.; Virchows Archiv; Zeitschr.
 Physiol. Absts. 3:
Physiol. Chem. See Zeitschr.
 Physiol. Res. [Baltimore] 2:
Phytol. See New Phytol.
Phytopath. See Ann.
 Phytopath. [Baltimore] 8:
Plant Bd. See Florida State Plant Bd.; Quart. Bull.
Plant Disease. See United States Bur. Plant Ind.
Plant Pathol. See Rept.
 Plant World [Baltimore] 20:
Planteartl. See Tidsskr.
Plantenz. See Mededeel.; Tijdschr.
Plants. See Ann. Rept.
Polytech. See Virginia Polytech. Inst.
Porto Rico. See Jour.
 Porto Rico Dept. Agric. Exp. Sta. Rept. [Washington, D. C.] 1917:
Posen. See Landw. Centralbl.
Potato. See Bull.; Wisconsin Potato Growers Assoc.
Poultry. See Jour.; Rel. Poultry Jour.
Poultry Husb. See Jour.
Poultrymen. See New Jersey State Hints.
Prag. See Blätter.
Prat. See Jour.
Press. See Pacific Rural Press.
Pretoria. See South Africa Dept. Agric.
Preuss. See Sitzungsber.

- Proc. See Jour.*; *Sci. Proc.*
Proc. K. Akad. Wetensch. Amsterdam 19:
Proc. Amer. Acad. Arts Sci. 54:
Proc. Amer. Phil. Soc. [Philadelphia] 57:
Proc. Amer. Soc. Hortic. Sci. 14:
Proc. and Trans. Nova Scotia Inst. Sci. 14:
Proc. Ann. Meet. Amer. Cranberry Assoc.
 1918:
Proc. Biol. Soc. Washington [D. C.] 31:
Proc. Entomol. Soc. Nova Scotia 1918:
Proc. Indiana Acad. Sci. 1917:
Proc. Iowa Acad. Sci. 24:
Proc. Linnaean Soc. New South Wales 43:
Proc. Nation. Acad. Sci. [United States] 3:
Proc. New York State Fruit-Growers Assoc.
 [Penn Yan] 16:
Proc. Roy. Soc. Edinburgh 38:
Proc. Roy. Soc. London B, 89:
Proc. Roy. Soc. Queensland 30:
Proc. Soc. Exp. Biol. Med. [New York] 15:
Proc. South Wales Inst. Eng. 34:
Proc. Washington State Grain-Growers'
Shippers'; Millers' Assoc. 12:
Proc. Washington State Hortic. Assoc. 14:
Proc. Western New York Hortic. Soc. [Roch-
 ester] 63:
Profsta. See Mededeeel.
Prof. Paper. See United States Geol. Surv.
Prog. See *Sci. Prog.*
Prog. Agric. Vitic. 70:
Proct. See *Ann. Rept.*
Protistenk. See *Arch.*
Psyche.
Psychiat. See *Schweiz. Arch.*
Psychol.-Neurol. Wochenschr. 19:
Publ. See *Carnegie Inst.*; *Philippine Bur.*
Sci.; *Puget Sound Biol. Sta.*; *Queensland*
Geol. Surv.; *Univ. California.*
Public Health. See *Amer. Jour.*; *United*
States Public Health.
Puerto Rico. See *Porto Rico*; *Rev.*
Puget Sound Biol. Sta. Publ. 2:
Pullman. See *Washington [State] Agric.*
Exp. Sta.
Pusa. See *Bull.*

Qua Ju. [Fruit Culture] (no.) 188:
Quart. Bull. See *Florida State Plant Bd.*
Quart. Bull. Maine Dept. Agric. 18:
Quart. Bull. Michigan Agric. Coll. 1:
Quart. Bull. State Plant Bd. Florida 2:
Quart. Jour. Forest. 11:
Quart. Jour. Univ. North Dakota 9:
Quart. Letter. See *United States Dept. Agric.*
Quebec. See *Ann. Rept.*

Queensland. See *Proc.*
Queensland Geol. Surv. Publ. 262.—p.

Rassen-Biologie. See *Arch.*
Rec. See *Anat. Rec.*; *Indian Forest Rec.*
Rec. Bot. Surv. India 6:
Rec. Brooklyn Bot. Gard. [Brooklyn] 8:
Rec. Office. See *Eugenics Rec. Office.*
Recueil Publ. Soc. Havraise d'Études Div.
 1917:
Recueil Trav. Bot. Néerland. 13:
Recueil Trav. Chim. Pays Bas et Belg. 37:
Reg. See *United States Dept. Agric.*
Rel. Poultry Jour. 24:
Rend. See *Compt. Rend.*
Rendic. See *Atti.*
Rendic. R. Accad. Lincei [Roma] V, 28:
Rendic. R. Inst. Lombardo Sci. Lett. II, 50:
Rept. See *Ann. Rept.*; *Biom. Rept.*; *Col-*
orado Agric. Exp. Sta.; *Connecticut*
Agric. Exp. Sta.; *Florida Agric. Exp.*
Sta.; *Hawaii Agric. Exp. Sta.*; *Maryland*
Agric. Exp. Sta.; [Massachusetts] *State*
Nursery Inspector; *Merck's Rept.*; *Porto*
Rico Dept. Agric.; *United States Dept.*
Agric.; *United States Public Health.*
Rept. Bd. Agric. Scotland 6:
Rept. Connecticut Park Comm. 1918:
Rept. Connecticut Veg. Growers' Assoc. 1917:
Rept. Guam Agric. Exp. Sta. 1917:
Rept. Japanese Assoc. Breeding. Sci. 2:
Rept. Maryland Agric. Soc. 2:
Rept. Michigan Acad. Sci. [East Lansing] 20:
Rept. New Jersey Agric. Exp. Sta. 1916:
Rept. Virginia State Entomol. Plant Pathol.
 [Blacksburg] 1916-17:
Res. See *Bull.*; *Indian Jour.*; *Jour.*; *Physiol.*
Res.
Res. Sta. See *Ann. Rept.*
Res. Bull. See *Iowa Agric. Exp. Sta.*
Rev. See *Gen. Elect. Rev.*; *Geog. Rev.*;
Monthly Weather Rev.; *Nature Study*
Rev.; *Philippine Agric. Rev.*
Rev. Agric. [Mexico] 2:
Rev. Agric. Puerto Rico 1:
Rev. Agric. Santo Domingo 14:
Rev. Agric. Com. y Trab. [Cuba] 1:
Rev. Faux et Forêts 1918:
Rev. Gén. Bot. [Paris] 30:
Rev. Gén. Sci. 30:
Rev. Vitic. [Paris] 48:
Rhode Island Agric. Exp. Sta. [Kingston]
Bull. 173. 27 p.
Rhodora 20:
Rijks Herb. See *Mededeeel.*

- Rivist. Agric.* 4:
Rivist. Patol. Veg. 9:
Rochester. See *Proc.*
Roma. See *Rendie.*
Rosarium 25:
Rose. See *Amer. Rose Ann.*
Roy. See *Ann.*
Roy. Bot. Gard. See *Notes.*
Roy. Hortie. Soc. See *Jour.*
Roy. Microsc. Soc. See *Jour.*
Roy. Scottish Arb. Soc. See *Trans.*
Roy. Soc. See *Phil. Trans.*; *Proc.*; *Trans.*
Rural. See *Pacific Rural Press.*
- Sacramento.* See *Monthly Bull.*
Samenuntersuchungsanst. See *Jahresber.*
Samenuntersuchungsanst. See *Jahresber.*
Santo Domingo. See *Rev.*
São Paulo. See *Bol.*
Sapporo. See *Jour.*; *Trans.*
School Sci. Math. 18:
Schweiz. See *Jahresber.*; *Verhandl.*
Schweis. Apoth. Zeitg. 56:
Schweis. Arch. Neurol. Psychiat. 1:
Sci. See *Amer. Jour.*; *Arch.*; *Bull.*; *Compt. Rend.*; *Jour.*; *New Zealand Jour.*; *Ohio Jour.*; *Philippine Bur. Sci.*; *Philippine Jour. Sci.*; *Proc.*; *Rendie.*; *Rept.*; *Rev.*; *School.*; *Soil Sci.*; *South Africa Dept. Agric. Sci.*; *South African Jour.*; *Trans.*
Sci. Amer. Suppl. 85:
Sci. Bull. See *Kansas Univ. Sci. Bull.*; *Lilly Sci. Bull.*
Sci. Exacts. See *Arch.*
Sci. Monthly [Lancaster, Pennsylvania] 5:
Sci. Nat. See *Arch.*; *Bol.*
Sci. Phys. See *Arch.*
Sci. Proc. Roy. Dublin Soc. 15:
Sci. Prog. 12:
Science [Lancaster, Pennsylvania] 47:
Scientia [Bologna] 24:
Scotland. See *Rept.*
Scottish. See *Trans.*
Seifenfabrikant 37:
Seka. See *Nogyo Seka.*
Selsk. Khov. i Lisonv 251:
Selskab. See *Danske Videnskab. Selskab. Overs.*
Ser. See *Bot. Ser.*; *Broteria.*
Ser. Bot. See *Trab.*
Sere. See *Maryland Agric. Extens. Serv.*; *United States Dept. Agric.*
Shippers. See *Proc.*
Sitzungsber. K. Preuss. Akad. Wiss. Berlin 1918:
Skogdirekt. inberetn. Kalendaaret [Kristiansa] 1915:
Skogsförädlingsanst. See *Meddel.*
Skogvårdsfören Tidskr. 16:
Smithsonian Inst. Misc. Collect. 69:
Soc. See *Ann.*; *Ann. Rept.*; *Bol.*; *Bull.*; *Compt. Rend.*; *Jour.*; *Mem.*; *Proc.*; *Recueil.*; *Trans.*
Soc. Alzate. See *Mem.*
Social Gids 3:
Soil. See *Bienn. Rept.*
Soil Sci. [Baltimore] 5:
Soil Rept. See *Illinois Agric. Exp. Sta.*
South Africa. See *Trans.*
South Africa Dept. Agric. Bull. 3. 9 p.
South Africa Dept. Agric. [Pretoria] Bull. (Local Ser.) 26:
South Africa Dept. Agric. Year Book [Pretoria] 1917:
South Africa Dept. Agric. Sci. Bull. 10. 18 p.
South African Fruit Grower 4:
South African Jour. Indust. 1919:
South African Jour. Sci. 14:
South Australia. See *Trans.*
South Carolina Agric. Exp. Sta. [Clemson College] Bull. 198. 41 p.
South Wales Inst. See *Proc.*
Southern California. See *Bull.*
Special Bull. See *Michigan Agric. Exp. Sta.*
St. Louis. See *Ann.*
St. Paul. See *Minnesota Agric. Exp. Sta.*
Sta. See *name of country or state*; *Ann. Rept.*; *Bienn. Rept.*; *Cornell Univ. Agric. Exp. Sta.*; *Mem.*; *Monthly Bull.*; *Porto Rico Dept. Agric.*; *Rept.*
Stat. See *Meddel.*
State Agric. Exp. Sta. See *New York [State] Agric. Exp. Sta.*
State Bd. See *Bull.*; *Maryland State Bd. Forestry.*
State Comm. Hortie. See *Monthly Bull.*
State Coll. See *Pennsylvania State Coll.*
State Entomol. See *Rept.*
State Fruit-Growers. See *Proc.*
State Grain-Growers. See *Proc.*
State Hiv's. See *New Jersey State Hints.*
State Hortie. See *Ann. Rept.*
State Hortie. Assoc. See *Proc.*
State Hortie. Soc. See *Trans.*
State Mus. See *Bull.*; *New York State Mus.*
State Nursery Inspector. See *[Massachusetts] State Nursery Inspector.*
State Plant Bd. See *Quart. Bull.*
R. Staz. Agrum e Frut. Acireale Bull. [Acireale] 33:

- Stockholm.* See Handl.; Meddel.
Storrs [Connecticut] Agric. Exp. Sta. Bull.
 92:
Strait Branch. See Jour.
Studies. See Indiana Univ. Studies.
Study. See Nature Study Rev.
Stuttgart. See Zeitschr.
Swiss. See Jour.
Suppl. See Sci. Amer.
Suriname. See Mededeel.
Surv. See Bienn. Rept.; Rec.
Svensk. See Handl.
Svensk Bot. Tidskr. 10:
Sveriges Utsädesf. Tidskr. 26:
Syst. See Not. Syst.
- Tech.* See New Zealand Jour.
Tech. Bull. See Mich. Agric. Exp. Sta.;
 Mississippi Agric. Exp. Sta.; Virginia
 Agric. Exp. Sta.; West Virginia Agric.
 Exp. Sta.
Tech. Instruct. See Jour.
Tectona. See Boschbouwk. Tijdschr.
Tell. See Mededeel.
Texas Agric. Exp. Sta. [College Station]
 Bull. 205—p.
Texas Dept. Agric. [Austin] Bull. 53:
Teysmannia 29:
Tidskr. See Handl.; Land. Akad.; Svensk.
 Bot. Tidskr.; Sveriges Utsädesf. Tidskr.
Tidskr. See Bot. Tidskr.; Skogvårdsfören
 Tidskr.
Tidskr. Landbr. Planteavl. [Kjöbenhavn]
 25:
Tijdschr. See Boschbouwk. Tijdschr.
Tijdschr. Plantenz. [Amsterdam] 23:
Tijdschr. Plantenz. [Amsterdam] 24 (Bijbl.):
Tokyo. See Bot. Mag.; Jour.
Tomo. See Engel.
Torrey. See Bull.; Mem.
Torreya 18:
Torrino. See Ann.
Trab. See Rev.
Trab. Mus. Nac. Cienc. Nat. Madrid (Ser.
 Bot.) 14:
Trans. See Phil. Trans.; Proc.
Trans. Amer. Inst. Mining Eng. 53:
Trans. Amer. Microsc. Soc. 37:
Trans. Cambridge Phil. Soc.
Trans. Connecticut Acad. Arts Sci. 22:
Trans. Illinois Acad. Sci. 10:
Trans. Illinois Hortie. Soc. 51:
Trans. Indiana Hortie. Soc. 1917:
Trans. Kansas Acad. Sci. 28:
Trans. Kansas State Hortie. Soc. 34:
Trans. Massachusetts Hortie. Soc. [Boston]
 1918:
Trans. Mycol. Soc. 6:
Trans. New Zealand Inst. 50:
Trans. Roy. Scottish Arb. Soc. 32:
Trans. Roy. Soc. Canada III, 11:
Trans. Roy. Soc. Edinburgh 52:
Trans. Roy. Soc. South Africa 7:
Trans. Roy. Soc. South Australia 42:
Trans. Sapporo Nat. Hist. Soc. 7:
Trav. See Compt. Rend.; Recueil.
Trinidad a Tobago. See Bull.
Trop. See Flora.
Tropical Agriculturist 50:
Tunis. See Bull.
- Union of South Africa.* See South Africa.
United States. See Contrib.; Federal Hortie.
 Bd.; Proc.
United States Bur. Plant. Ind. [Washington,
 D. C.] Plant Disease Bull. 2.—p.
United States Dept. Agric. [Washington, D.
 C.] Bull. 729. 10 p.
United States Dept. Agric. [Washington, D.
 C.] Circ. 7. 8 p.
United States Dept. Agric. [Washington, D.
 C.] Farmers Bull. 938.—p.
United States Dept. Agric. Federal Hortie.
 Bd. [Washington, D. C.] Quart. Letter
 Inf. 25.—p.
United States Dept. Agric. Federal Hortie.
 Bd. [Washington, D. C.] Rept. 1918. 19 p.
United States Dept. Agric. Federal Hortie.
 Bd. [Washington, D. C.] Serv. and Reg.
 Announcem. 50:33.
United States Forest Serv. [Washington, D.
 C.] Bull. 700.—p.
United States Geol. Surv. [Washington, D.
 C.] Prof. Paper 101.—p.
United States Nation. Mus. [Washington,
 D. C.] Bull. 103. 16 p.
United States Public Health Rept. [Wash-
 ington, D. C.] 1918:
United States Weather Bur. [Washington,
 D. C.] Bull. 43. 32 p.
Univ. See Ann. Rept.; Jour.; Lands Univ.;
 Quart. Jour.
Univ. Arkansas Agric. Exp. Sta. See Arkan-
 sas Agric. Exp. Sta.
Univ. California Publ. (Agric. Sci.) [Berke-
 ley] 3:
Univ. California Publ. (Bot.) [Berkeley] 5:
Univ. Illinois Agric. Exp. Sta. See Illinois
 Agric. Exp. Sta.

- Univ. Illinois Coll. Agric. [Urbana] Extens. Circ. 22.—p.
University Farm. See Minnesota Agric. Exp. Sta.
Urbana. See Illinois Agric. Exp. Sta.; Univ. Illinois.
Utah Agric. Exp. Sta. [Logan] Bull. 149.—p.
Utsidesf. See *Sveriges Utsidesf. Tidskr.*
Varsovie. See Compt. Rend.
Vaudoise. See Bull.
Vég. See Bull.
Veg. Growers. See Rept.
Veg. See Rivist.
Ver. See Mededeel.
Verdunp. See Arb.
Vererb. See Zeitschr.
Verhandl. K. Akad. Wetensch. Amsterdam 21:
Verhandl. Schweiz. Naturforsch. Ges.
Veralagen. gew. verg. K. Akad. Wetensch.
Versuchsanst. See Jahresber.
Versuchsst. See Landw. Versuchsst.
Vet. See Handl.
Victoria. See Jour.
Videnskab. See Danske Videnskab. Selskab.; Overs.
Virchows Arch. Pathol. Anat. Physiol. Klinisch. Med. 224. 256 p.
Virginia. See Rept.
Virginia Agric. Exp. Sta. [Blacksburg] Tech. Bull. 18:
Virginia Polytech. Inst. Extens. Bull. 41. 19 p.
Vitic. See Prog.; Rev.
Washington [D. C.]. See Carnegie Inst.; Contrib.; Hawaii Agric. Exp. Sta.; Jour.; Monthly Weather Rev.; Porto Rico Dept. Agric.; Proc.; United States Bur. Plant Ind.; United States Dept. Agric.; United States Forest Service; United States Geol. Surv.; United States Nation. Mus.; United States Public Health Dept.; United States Weather Bur.; Year Book.
Washington [State] Agric. Exp. Sta. [Pullman] Bull. 150.—p.
Weather. See Monthly Weather Rev.; United States Weather Bur.
Weekbl. See Pharm. Weekblad.
Wetensch. See Akad.; Mededeel.; Proc. Verhandl.; Veralagen.
West Australia. See Jour.
West Indian Bull. [Barbados] 16:
West Raleigh. See North Carolina Agric. Extens. Serv.
West Virginia Agric. Exp. Sta. [Morgantown] Tech. Bull. 170. 71 p.
Western New York. See Proc.
Wirtsch. See Arb.
Wisconsin. See Ann. Rept.; Bull.
Wisconsin Agric. Exp. Sta. [Madison] Bull. 286.—p.
Wisconsin Agric. Exp. Sta. [Madison] Extens. Circ. 102. 4 p.
Wisconsin Hortic. 8:
Wisconsin Potato Growers' Assoc.
Wiss. See Jahrb.; Sitzungsber.
Wochenschr. See Psychol.-Neurol. Wochenschr.
Woods Hole. See Biol. Bull.
Wooster. See Ohio Agric. Exp. Sta.
Work. See Museum Work.
World. See Plant World.
Yakugakuzasshi, Mar., 1918.
Year Book. See Carnegie Inst.; Madras Agric. Dept.; South Africa Dept. Agric.
Year Book Carnegie Inst. Washington 16:
Zasshi. See Byo-chu-gai.
Zeitg. See Apoth. Zeitg.; Illustr. Landw. Zeitg.; Pharm. Zeitg.; Schweiz. Apoth. Zeitg.
Zeitschr. See Biochem. Zeitschr.; Hoppe-Seylers Zeitschr.; Kolloid-Zeitschr.; Oesterreich. Bot. Zeitschr.
Zeitschr. Allgem. Physiol. 18:
Zeitschr. Bot. 10:
Zeitschr. Indukt. Abstam. Vererb. 19:
Zeitschr. Nahrungs- u. Genussmit. 35:
Zeitschr. Pflanzenzücht. 6:
Zeitschr. Pflanzkrankh. [Stuttgart] 28:
Zeitschr. Physiol. Chem. 101:
Zeitschr. Zuckerindust. Böhmen 42:
Zool. See Jour.
Zool. Jahrb. 41:
Zuckerindust. See Zeitschr.
Zuckerrübenbau. See Blätter.
Zürich. See Jahresber.